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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,270	04/08/2004	Yi-Hsu Wu	TS01-1357D	9389
7590	09/16/2004		EXAMINER	
George O. Saile 28 Davis Avenue Poughkeepsie, NY 12603			NGUYEN, THINH T	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/821,270

Applicant(s)

WU ET AL.

Examiner

Thinh T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25 and 27 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) 25-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAIL OFFICE ACTION

1. Claims 25-28 are pending in the application.

Claims Objections

2. Claims 25, 27 are objected to since they are method claims that depend on **cancelled device claims**.

The cancellation makes those claims unclear and difficult for a person of ordinary skill in the art to make use of the invention:

The Examiner suggests the Applicant rewrite the claims as follows:

A/ For claim 25 rewrite the claim as:

--"25. A whole chip electrostatic discharge ECD method comprising the steps of:
connecting all input/output, I/O pads to each other with double
isolation, and inserting the circuit of the first embodiment of this invention
between each adjacent I/O pair on a semiconductor chip.

The first embodiment circuit comprising:

a PN diode whose p-side connects to the input / output, I/O pad to
be protected and whose N-side is connected to Vcc supply voltage,
a PMOS FET plus NMOS FET 2-device input stage connected
between Vcc and Vss.

a resistor plus NMOS FET first mid stage connected between Vcc and Vss

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(ground),
a resistor to ground second mid-stage, and
a PMOS FET plus NMOS FET output stage connected between Vcc and
Vss (ground) whose input connects from the mid stages and whose output
drives an unused I/O pad. "--

B/ For claim 27 rewrite the claim as:

--"27. A whole chip electrostatic discharge ECD method comprising the steps of:
connecting all input/output, I/O pads to each other with double
isolation, and inserting the circuit of the second embodiment of this invention
between each adjacent I/O pair on a semiconductor chip.

The second embodiment circuit comprising:

a PN diode whose p-side connects to the input / output, I/O pad to
be protected and whose N-side is connected to Vcc supply voltage,
a PMOS FET plus NMOS FET 2-device input stage connected
between Vcc and Vss.
a resistor plus NMOS FET first mid stage connected between Vcc and Vss
(ground),
a second mid-stage containing a second NMOS FET connected
between input stage and ground, and
a PMOS FET plus NMOS FET output stage connected between Vcc and
Vss (ground) whose input connects from the mid stages and whose output

drives an unused I/O pad. "--

3. Claims 26,28 are objected to under 37 CFR 1.75©, as being improper dependent forms for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) in proper dependent forms or rewrite the claims in proper independent form.

The reasons those claims are improper because of the word **including at the beginning of every step limitations and they are not different from the recitation of claim 25 and 27 they depend on:**

- inserting a circuit of the first embodiment
- inserting a circuit of the second embodiment

The recitation of claim 26 and 28 makes them redundant with claim 24 and 26 since the including of all the structure limitations of claim 1 and 13 is equivalent to inserting the structures claimed in claims 1 and 13.

4. This application is in condition for allowance except for the presence of the noted informalities in the claim. Applicant is given TWO MONTH or SIXTY DAYS from the date of this letter, whichever is longer, to cancel the noted claims or take other appropriate action (37 CFR 1.144).

Prosecution on the merits of this case is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213. except for consideration of the above matter.

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A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

5. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

Conclusion

6. The prior arts made of record and not relied upon are considered pertinent to applicant disclosure: Yee (US patent 5,818,087) disclose an electrostatic discharge protecting circuit and method.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9.00 am to 6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Thinh T Nguyen



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David Neims
Supervisory Patent Examiner
Technology Center 2800